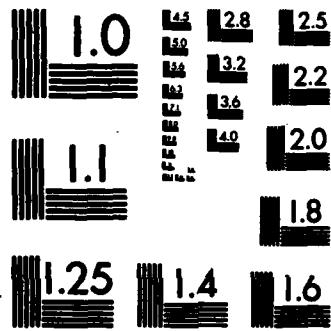


AD-A137 325 19318B MLRS MISSILE NUMBER V53-03 ROUND NUMBER 521/CH-2 1/1
10 NOVEMBER 1983(U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER NOV 83
ERADCOM/ASL-DR-1325 F/G 4/2 NL

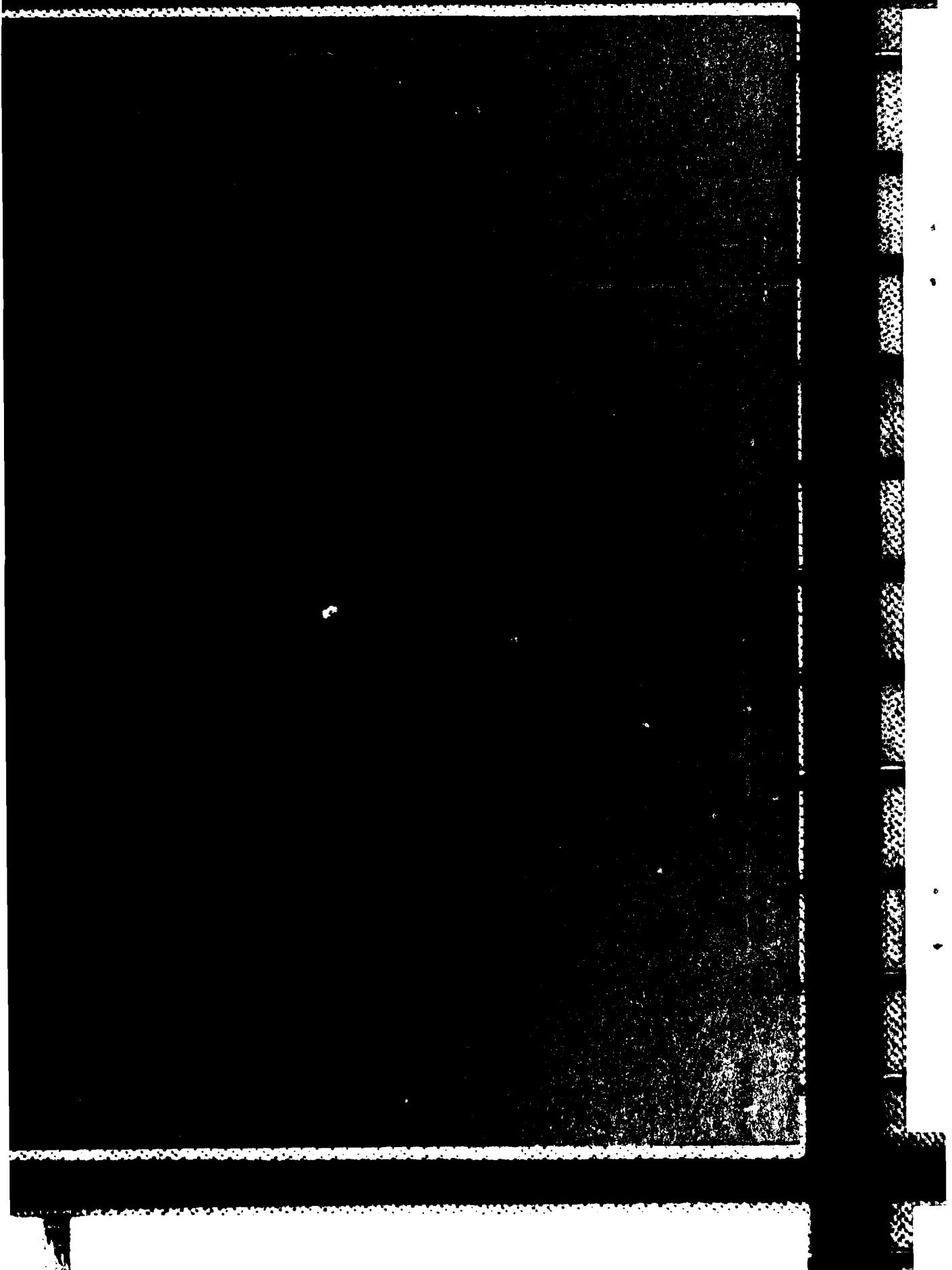
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210



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A



REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR-1325	2. GOVT ACCESSION NO. AD-A137325	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19318B MLRS Missile Number V53-03 Round Number 521/CH-2		5. TYPE OF REPORT & PERIOD COVERED
		6. PERFORMING ORG. REPORT NUMBER
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17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19318B MLRS, Missile Number V53-03, Round Number 521/CH-2 are presented in tabular form.		

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INTRODUCTION

193188 MLRS, Missile Number V53-03, Round Number 521/CH-2, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0930 MST, 10 Nov 1983. The scheduled launch time was 0930 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m³), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE

LC-33 2km
Don 2km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

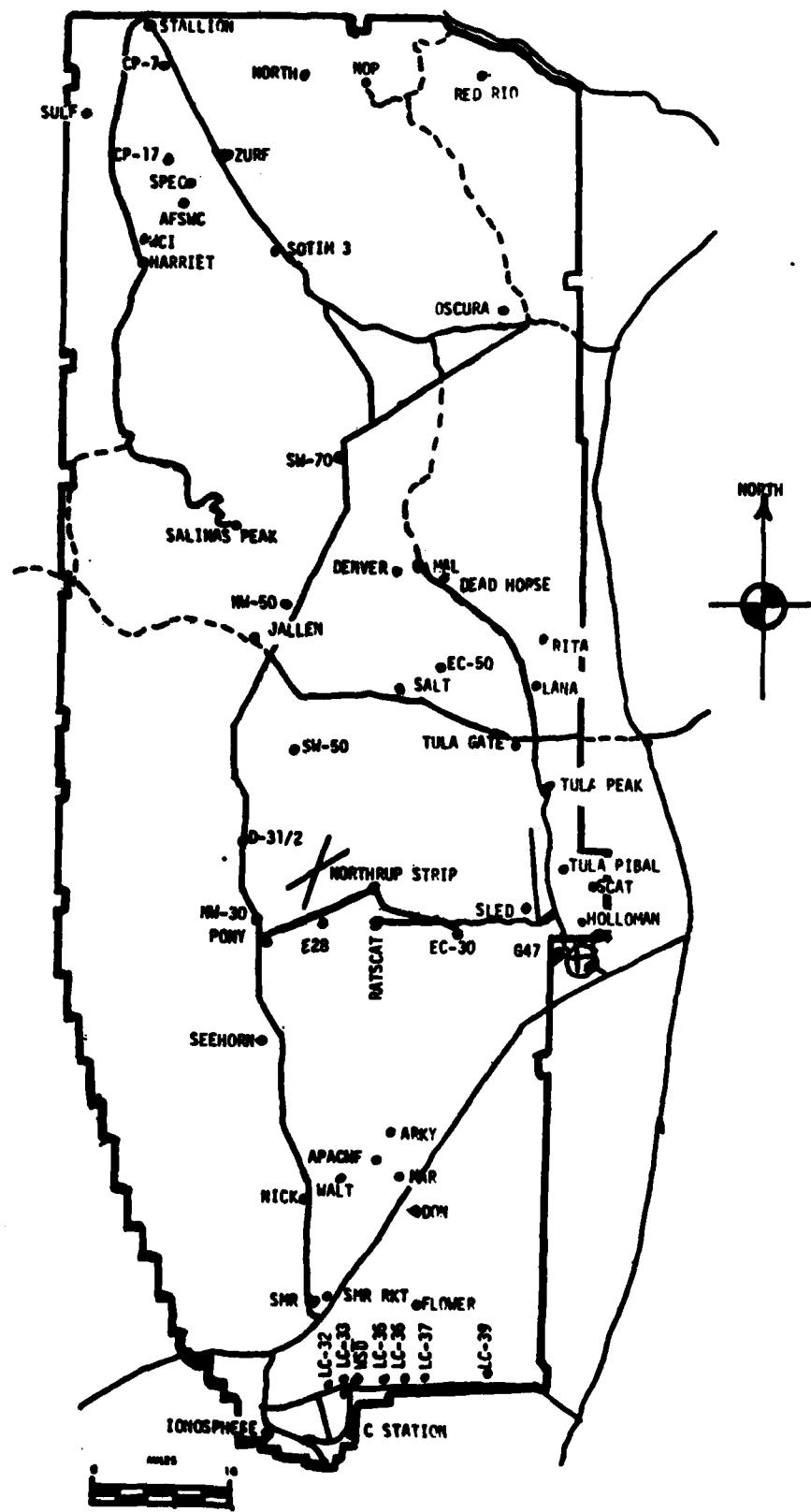
SITE AND TIME

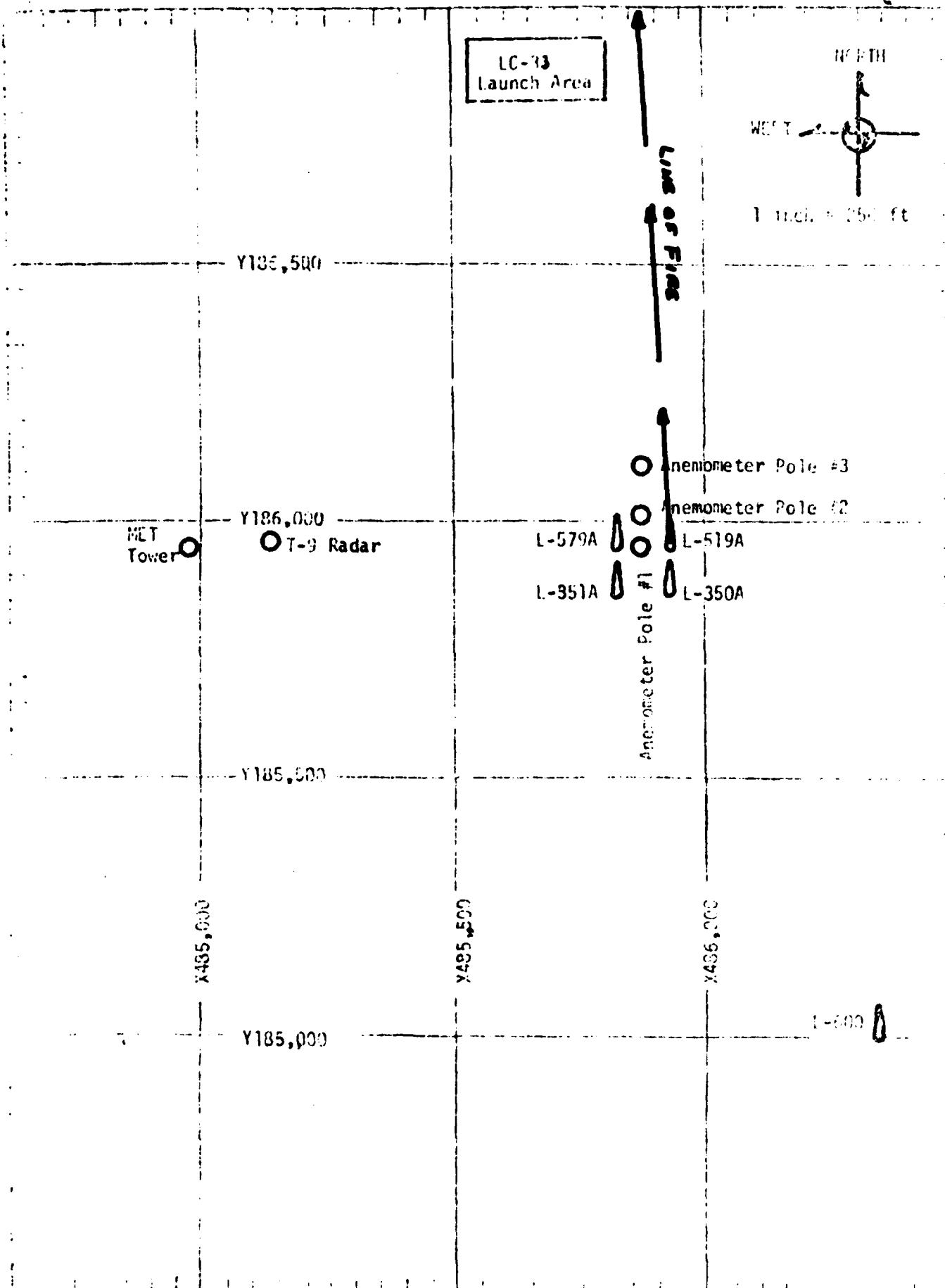
WSD 0700 MST
LC-37 0800 MST
WSD 0935 MST

Accession For	
NTIS	GRA&I <input checked="" type="checkbox"/>
DTIC	TAB <input type="checkbox"/>
Unannounced <input type="checkbox"/>	
Justification	
By _____	
Distribution/ _____	
Availability Codes	
Avail	and/or
Dist	Special
A-1	



WSMR METEOROLOGICAL SITES





ASYMPTOTIC CIRCULARITY									
RELATIVE HEIGHT.	51								
DE" POINT	-1.2								
MEET POINT.	4.5								
MEET POINT.	4.0								
DRY EARTH TELL.	8.5								
TIME:	0930								

OBSERVATION	CIRCULAR									
	1ST LAYER	2ND LAYER	3RD LAYER	HGT						
REMARKS										

TIME	REFLECTION									
DATE	10	10	10	10	10	10	10	10	10	10
STATION	LC-33									

PROJECT SURFACE OBSERVATION

X = 484,982.73 Y = 185,957.73 H = 3995.00

TABLE 2

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 10 November 1983

SITE: LC-33
 TIME: 0933 MST
 WSTM COORDINATES:
 X= 486,872.00
 Y= 184,146.75
 H= 3,981.15

SITE: Don
 TIME 0930 MST
 WSTM COORDINATES:
 X= 511,988.37
 Y= 247,396.36
 H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	024	05
210	028	02
270	201	05
330	206	06
390	201	07
500	227	03
650	267	05
800	290	11
950	287	14
1150	286	13
1350	309	12
1550	314	12
1750	310	14
2000	294	14

Data obtained from a Nike-Herc
 Radar Tracked pilot-balloon
 observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	013	02
210	001	02
270	321	01
330	284	02
390	276	02
500	274	03
650	299	03
800	295	06
950	289	10
1150	299	09
1350	303	11
1550	311	13
1750	309	14
2000	299	14

Data obtained from a single
 Theodolite Tracked pilot-balloon
 observation.

TABLE 3

AIMING AND T-TIME COMPUTER MET MESSAGES

10 November 1983

WSD 0700 MST	LC-37 0800 MST	WSD 0935 MST
METCM1324064	METCM1324063	METCM1324064
101400122884	101500124883	101660122884
00000000 27360884	00053022 27770883	00000000 28260884
01044004 27780873	01048004 27950872	01616001 28310874
02349003 28090847	02398004 28080846	02354003 28130848
03480005 28080807	03507008 28030806	03496008 28140808
04561011 28100759	04530013 28120758	04527012 28210760
05552011 28070715	05554013 28050714	05547013 28080716
06505016 27820672	06512014 27790671	06506013 27830673
07515066 27540632	07507015 27560631	07507016 27590633
08521018 27220594	08504020 27220593	08517021 27320595
09515022 26860558	09519025 26840557	09526022 26970559

STATION ALTITUDE 3989.00 FEET MSL
 10 NOV. 83 0700 HKT, HST
 ASCENSION NO. 25

SIGNIFICANT LEVEL DATA
 3140020511
 WHITE SANDS
 TABLE 4

GEODETIC COORDINATES
 32°40'04.3 LAT DEG
 106°37'03.3 LONG DEG

PRESSURE GEOMETRIC MILLIBARS MSL FEET	ALTIMETER DEGREES CENTIGRADE	TEMPERATURE AIR DENSITY PERCENT	WIND DIRECTION IN DEGREES
889.0	3989.0	-6	-1.2
876.2	4163.2	3.4	-2.7
859.6	4737.6	7.0	-2.7
850.0	5041.1	7.2	-1.2
841.0	5128.9	7.2	-0.7
829.1	5714.1	7.2	-0.5
813.4	6230.9	7.7	-10.1
781.4	7245.8	6.3	-1.6
770.5	7553.0	5.1	-5.3
760.3	7839.8	7.5	-6.6
756.0	8206.2	6.2	-16.1
741.0	8749.6	6.6	-16.5
736.6	10288.7	6.6	-18.1
618.5	13590.9	1.0	-21.3
516.2	18280.1	-9.2	-14.4
505.8	18647.2	-9.9	-17.0
507.0	19089.1	-11.1	-17.9
460.8	20651.4	-15.2	-17.1
462.3	21050.9	-16.4	-18.7
443.0	22044.3	-17.6	-24.9
422.2	23283.2	-20.2	-28.3
407.0	24592.1	-23.4	-30.1
389.4	25229.3	-25.1	-30.6
324.6	29500.9	-34.7	-45.5
305.4	30996.3	-39.0	-45.3
306.0	31298.9	-39.4	-44.6
256.0	35316.6	-50.0	
206.0	39095.5	-61.7	
171.6	42261.1	-65.2	
161.0	44175.4	-64.8	
156.1	45795.1	-66.0	
153.2	48171.6	-66.0	
119.0	50014.9	-68.3	
107.0	53575.8	-66.2	
76.0	61049.9	-64.0	

STATION ALTITUDE 3989.00 FEET MSL
10 NOV. 83 0700 HRS. MST
ASCENSION NO. 551

UPPER AIR DATA
3110020551
WHITE SAW'S

TABLE 5

GEOMETRIC ALTITUDE ASL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRANE	WIND POINT PERCENT	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND KNOTS	WIND DATA WIND DIRECTION DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	984.0	-6	-1.2	96.0	1127.2	643.9	0	0	1.000210
4000.0	985.6	-5	-1.2	96.0	1125.7	644.2	232.9	.0	1.000279
4500.0	867.2	5.0	-2.0	55.8	1081.8	651.0	232.9	.8	1.000266
5000.0	851.3	7.2	-1.4	54.3	1055.3	653.1	232.9	1.7	1.000262
5500.0	835.7	7.2	-3.0	48.1	1036.1	653.0	232.9	2.5	1.000254
6000.0	820.4	7.5	-8.0	31.5	1016.9	653.1	249.3	3.4	1.000242
6500.0	805.3	7.5	-7.1	35.0	998.6	653.0	276.7	5.6	1.000240
7000.0	790.6	6.6	-3.1	49.7	982.0	652.4	292.2	7.6	1.000242
7500.0	776.0	5.5	-1.0	48.7	968.8	650.8	303.6	9.6	1.000237
8000.0	761.6	7.4	-7.9	27.3	943.2	653.5	312.7	10.2	1.000224
8500.0	747.9	8.4	-16.3	15.5	924.5	654.0	320.1	10.8	1.000214
9000.0	734.2	8.5	-16.8	15.0	908.0	653.8	318.5	10.8	1.000210
9500.0	720.7	7.6	-17.3	15.0	893.5	653.1	313.7	11.0	1.000207
10000.0	707.5	7.0	-17.0	15.0	879.2	652.3	303.6	12.0	1.000203
10500.0	694.2	6.2	-10.3	15.1	865.2	651.4	293.8	13.8	1.000200
11000.0	681.6	5.4	-18.8	15.4	851.8	650.4	285.7	16.0	1.000197
11500.0	669.9	4.5	-10.3	15.7	838.5	649.4	284.4	15.7	1.000193
12000.0	656.5	5.7	-10.7	16.0	825.5	648.4	284.3	15.6	1.000190
12500.0	644.9	2.9	-20.2	16.3	812.7	647.4	286.9	15.8	1.000187
13000.0	632.4	2.0	-20.7	16.6	800.1	646.4	288.9	16.5	1.000184
13500.0	620.6	1.2	-21.2	16.9	787.6	645.4	290.4	17.7	1.000181
14000.0	609.8	.1	-10.4	21.3	775.5	644.3	291.6	17.9	1.000179
14500.0	597.2	-1.0	-17.3	26.5	763.7	643.0	292.5	17.9	1.000178
15000.0	585.8	-2.1	-16.6	31.7	752.0	641.0	292.3	18.2	1.000176
15500.0	574.6	-3.2	-15.8	36.9	740.5	640.5	292.3	19.1	1.000174
16000.0	563.6	-4.2	-15.1	42.2	729.3	639.3	292.5	21.1	1.000172
16500.0	552.9	-5.3	-14.7	47.4	718.2	638.0	292.0	24.3	1.000170
17000.0	542.3	-6.4	-10.5	52.6	707.3	636.7	291.4	28.0	1.000168
17500.0	532.0	-7.5	-14.3	57.8	696.0	635.4	291.3	30.3	1.000166
18000.0	521.6	-8.6	-14.3	63.1	686.1	634.1	291.0	32.1	1.000164
18500.0	511.6	-9.6	-15.9	60.0	675.6	632.8	290.4	32.3	1.000160
19000.0	501.8	-10.9	-17.7	56.6	665.7	631.3	290.0	32.3	1.000157
19500.0	491.9	-12.2	-17.5	64.4	655.8	629.7	290.1	32.1	1.000155
20000.0	482.2	-13.5	-17.2	73.3	646.1	628.2	290.3	32.3	1.000153
20500.0	472.6	-14.8	-17.1	82.3	636.5	629.6	290.6	32.4	1.000151
21000.0	463.2	-16.2	-17.0	82.4	627.4	624.8	291.9	31.9	1.000148
21500.0	454.0	-16.9	-20.0	71.3	616.0	623.9	293.0	31.2	1.000144
22000.0	444.9	-17.5	-23.4	59.5	605.7	623.2	294.2	30.1	1.000140
22500.0	435.9	-18.5	-25.4	54.0	595.9	621.9	295.0	30.4	1.000137
23000.0	427.1	-19.6	-27.3	50.2	586.4	620.0	295.0	31.2	1.000134

STATION ALTITUDE 3800 FT. T. 5.
10 NOV. 1953 0700 hrs. MST
ASST. STATION 110. 551

WIFPLK AIR. STA
31400205.1
WHT. SAWUS

GEODETIC COORDINATES
32°45'04.5 LAT NEG
106.47033 LONG E

TABLE 5 Con't

GRAD. TRIG	PLATEAU	LEVEE	REL. HUM.	SPLFD. UP	WIND DATA	INDEX
AT MSL	FEET	FEET	ULTRAVIOLET	SOUND	WIND SPEED KNOTS	OF REFRACTION
MSL FEET	FEET	DEGREES	CENTIGRADS	METER	DEGREES (TN)	
23500.0	410.4	-20.7	49.0	577.2	619.1	296.6
24000.0	469.9	-22.0	51.3	568.2	617.6	296.6
24500.0	491.5	-23.2	53.6	559.3	616.1	294.3
25000.0	393.3	-24.4	55.6	550.5	614.6	291.4
25500.0	376.1	-25.6	57.0	541.7	613.1	288.1
26000.0	377.0	-26.7	58.1	532.7	611.7	285.6
26500.0	369.0	-27.8	59.2	523.9	610.2	283.2
27000.0	361.2	-29.0	60.4	515.3	608.6	281.4
27500.0	353.6	-30.1	61.5	506.8	607.4	280.0
28000.0	346.1	-31.3	62.5	498.4	605.9	281.0
28500.0	338.6	-32.4	63.6	490.2	604.5	281.5
29000.0	331.7	-33.5	64.4	482.2	603.1	280.9
29500.0	324.7	-34.7	65.5	474.3	601.6	280.5
30000.0	317.0	-35.9	66.6	467.0	599.7	280.3
30500.0	310.4	-37.0	67.6	459.9	597.7	281.3
31000.0	304.0	-39.1	68.7	452.4	596.0	282.8
31500.0	297.5	-39.9	69.6	444.0	595.0	283.3
32000.0	290.6	-41.2	70.1	436.5	593.5	283.6
32500.0	284.1	-42.6	70.7	429.2	591.6	284.1
33000.0	277.7	-43.9	71.5	422.0	589.9	284.6
33500.0	271.5	-45.2	72.7	414.9	588.2	284.7
34000.0	265.4	-46.5	73.3	407.9	586.5	284.7
34500.0	259.4	-47.8	74.0	401.1	584.8	284.8
35000.0	253.6	-49.2	74.5	394.5	583.1	284.3
35500.0	247.8	-50.5	75.0	387.7	581.4	283.0
36000.0	242.0	-51.7	75.7	380.7	579.7	281.9
36500.0	236.3	-53.0	76.4	373.8	578.1	281.2
37000.0	230.7	-54.2	76.9	367.1	576.4	281.3
37500.0	225.3	-55.5	77.5	360.5	574.0	282.3
38000.0	220.0	-56.7	78.2	354.0	573.1	283.6
38500.0	214.8	-58.0	78.9	347.7	571.5	285.1
39000.0	209.7	-59.2	79.6	341.5	569.0	286.7
39500.0	204.8	-60.5	80.2	335.4	568.2	288.3
40000.0	200.0	-61.7	80.9	329.4	566.5	289.3
40500.0	195.1	-62.9	81.6	322.3	565.7	289.9
41000.0	190.3	-64.1	82.3	315.4	564.9	290.4
41500.0	185.6	-65.5	83.0	308.6	564.0	288.2
42000.0	181.1	-66.1	83.6	301.9	563.2	286.6
42500.0	176.7	-66.8	84.3	295.4	562.4	285.3
43000.0	172.4	-67.2	85.0	289.8	561.6	284.8

• At least one station having humidity value was used in the interpolation.

STATION ALTITUDE 3499.00 FEET FSL
10 NOV. 83 0700 hrs MST
ASCENSION NO. 551

IMPER ALK LATA
31400120551
WHITE SANDS

TABLE 5 Con't

GEODETIC COORDINATES
32.40045 LAT UEG
106.37033 LONG UEG

GEODETIC ALTITUDE FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	RELAT. HUMIDITY PERCENT	REL. HUMID. GM/CUBIC METER	SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX (H REFRACTIO)
43500.0	160.2	-65.0	281.5	562.0	284.8	41.2	1.000003	
44000.0	164.0	-64.9	274.4	562.4	286.0	40.4	1.000001	
44500.0	160.0	-64.9	267.7	562.2	287.6	39.5	1.000006	
45000.0	150.1	-65.3	261.0	561.6	288.4	40.1	1.000005	
45500.0	152.2	-65.8	255.7	561.0	289.6	40.8	1.000057	
46000.0	146.5	-66.0	249.7	560.7	294.4	41.4	1.000056	
46500.0	144.8	-66.1	243.5	560.7	299.4	42.1	1.000054	
47000.0	141.2	-66.0	237.5	560.7	303.2	38.8	1.000053	
47500.0	137.1	-66.0	231.6	560.7	307.6	35.8	1.000052	
48000.0	134.3	-66.0	225.9	560.7	304.4	29.8	1.000050	
48500.0	131.0	-66.3	220.7	560.3	298.9	23.8	1.000049	
49000.0	127.8	-66.8	215.8	559.6	290.2	21.6	1.000048	
49500.0	124.6	-67.4	210.9	558.9	280.3	20.6	1.000047	
50000.0	121.2	-67.9	206.2	556.2	276.6	23.0	1.000046	
50500.0	118.5	-68.2	201.5	557.7	275.1	26.3	1.000045	
51000.0	115.6	-67.9	196.2	558.1	276.3	28.2	1.000044	
51500.0	112.7	-67.6	191.0	556.5	278.0	29.8	1.000043	
52000.0	109.9	-67.3	186.0	558.9	279.3	31.6	1.000041	
52500.0	107.2	-67.0	181.1	559.3	280.6	31.3	1.000040	
53000.0	104.5	-66.7	176.4	559.7	282.5	31.7	1.000039	
53500.0	101.9	-66.4	171.7	560.1	284.7	32.0	1.000038	
54000.0	99.4	-66.2	167.3	560.5	286.8	31.5	1.000037	
54500.0	96.9	-66.0	163.0	560.7	289.2	30.4	1.000036	
55000.0	94.5	-65.9	158.9	560.9	290.7	29.1	1.000035	
55500.0	92.2	-65.7	154.9	561.1	290.9	27.3	1.000034	
56000.0	90.0	-65.5	151.0	561.3	291.6	25.7	1.000034	
56500.0	87.8	-65.4	147.2	561.5	293.6	24.3	1.000033	
57000.0	85.6	-65.2	143.5	561.7	295.3	22.6	1.000032	
57500.0	83.5	-65.1	139.8	561.9	296.3	20.0	1.000031	
58000.0	81.3	-64.9	136.3	562.1	296.7	17.3	1.000030	
58500.0	79.3	-64.8	132.8	562.4	295.6	14.4	1.000030	
59000.0	77.3	-64.6	129.5	562.6	294.9	12.4	1.000029	
59500.0	75.0	-64.5	126.2	562.8	295.4	11.7	1.000028	
60000.0	72.8	-64.5	123.0	563.0			1.000027	
60500.0	71.9	-64.2	119.9	563.2			1.000027	
61000.0	70.2	-64.0	116.9	563.4			1.000026	

STATION: ALTITUDE 3400.00 FT. E.F. MSL
 10 NOV. 03 0700 HRS. MST
 ASCLIS1, N NO. 261

MANDATORY LEVELS
 314002051
 0700 HRS. MST
 TABLE 6

GEODETIC COORDINATES
 32°40.043 LAT DEG
 106°37.033 LON DEG

PRESSURE (ELEVATION) MILLIBARS	FLEET	DEPARTURE DEGREES CENTIGRADE	TEMPERATURE		REL. HUM. PERCENT	DIRECTION DEGREES (TN)	WIND SPEED KNOTS
			AIR	DEWPNT			
5010.0	5017.	7.2	-1.2	55*	232.9	1.7	
4800.0	6675.	7.1	-5.5	40*	281.6	6.5	
4500.0	8415.	8.4	-16.3	16*	319.7	10.7	
4000.0	10279.	6.6	-18.1	15*	298.2	12.9	
3500.0	12260.	3.2	-20.0	16*	265.7	15.7	
3000.0	14374.	-0.7	-18.1	25*	292.4	17.9	
2500.0	16614.	-5.6	-14.6	49*	291.8	25.4	
2000.0	19062.	-11.1	-17.9	57*	290.1	32.3	
1500.0	21684.	-17.2	-21.9	66*	290.5	30.7	
1000.0	24551.	-23.4	-30.1	54*	290.9	32.0	
500.0	27709.	-30.7	-41.6	32*	280.5	31.5	
300.0	31236.	-39.4	-44.6	57*	283.1	30.9	
250.0	35239.	-50.0			283.5	41.2	
200.0	39899.	-61.7			289.3	46.5	
175.0	42591.	-65.0			284.9	40.9	
150.0	45672.	-66.0			292.0	41.1	
125.0	49228.	-67.3			282.1	20.7	
100.0	53710.	-66.2			286.2	31.8	
80.0	58163.	-64.8			296.0	15.4	
70.0	60841.	-64.0					

* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.37 FEET MSL
10 NOV. 63 WKS. 151
ASCENSION NO. 161

SIGNIFICANT LEVEL DATA

1141180161

LC-37

TABLE 7

GEOMETRIC COORDINATES
22° 00' 17" LAT DEG
166° 31' 23" LONG DEG

PRESSURE GEOMETRIC
MILLIBARS MSL FEET

ALTITUDE
DEGREES CENTIGRADE

TEMPERATURE

AIR DEPTH IN
CENTIGRADE

REF. HUM.
PERCENT

382.6	4051.4	3.7	-2.0	9.0
877.5	4206.1	4.0	-4.0	56.0
876.4	4239.7	5.6	-2.2	57.0
866.9	4533.5	7.0	-5.0	42.0
861.0	5064.7	6.8	-2.6	51.0
844.2	5249.5	7.0	-2.2	52.0
834.0	5576.2	7.5	-3.4	46.0
825.1	5860.2	7.3	-1.0	22.0
814.9	6204.3	7.5	-13.4	21.0
782.8	7287.4	5.5	-1.9	59.0
776.1	7518.4	5.3	-1.4	60.0
774.0	7591.3	6.2	-3.7	49.0
763.6	7957.0	8.3	-9.1	28.0
745.9	8593.3	8.7	-15.7	19.0
706.0	10310.7	6.5	-17.5	16.0
678.9	11132.8	4.9	-18.6	16.0
623.9	13785.6	1.9	-16.0	20.0
562.0	16121.7	4.5	-15.1	51.0
553.6	16511.1	5.7	-12.0	61.0
530.0	19112.3	10.9	-17.7	57.0
460.4	20749.2	15.5	-16.5	92.0
452.5	21604.7	17.2	-19.0	86.0
453.8	22306.4	17.9	-22.7	66.0
439.2	22396.0	18.5	-23.1	97.0
417.0	23609.4	20.3	-26.4	58.0
401.0	24616.0	23.4	-28.6	62.0
394.6	24044.9	24.1	-29.8	59.0
386.0	25416.9	25.4	-29.9	66.0
380.4	25920.9	26.3	-31.7	60.0
345.8	28066.9	31.5	-34.6	44.0
318.8	29044.9	35.7	-41.3	56.0
310.0	30583.3	37.6	-40.9	71.0
300.0	31326.1	39.0	-43.6	61.0
269.2	33740.8	45.1		
250.0	35356.4	48.5		
217.1	38264.6	56.2		
201.0	40559.5	60.6		
182.7	41762.8	63.3		
163.9	44093.2	64.0		
151.0	45084.7	65.0		

STATION ALTITUDE 4651.37 FEET SL
10 NOV. 83 0800 HRS MST
ASCTISIUN NO. 161

SIGNIFICANT LEVEL DATA

1140180101

LC-37

GEOMAGNETIC COORDINATES
32.40175 LAT UEG
106.31232 LONG DEG

TABLE 7 Con't

PRESSURE GEOMETRIC MILLIBARS	ALTITUDE MCL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	W. L. I. M. PERCENT
130.1	48735.8	-66.5	
111.5	50590.3	-68.7	
100.0	53761.8	-66.5	
86.5	56674.7	-64.2	
70.0	61165.1	-63.0	
64.7	62762.7	-63.2	
61.0	63665.9	-61.0	
50.0	68055.5	-60.3	

STATION ALTITUDE 4651.37 FEET 454
19 NOV. 85 0800HRS MST
ASCENSION NO. 161

UPPER AIR DATA
31490100161
LC-37
TABLE 8

GEOMETRIC ALTITUDE MILLIBARS MSL FEE	PRESSURE MILLIBARS CENTIGRADS	TEMPERATURE AIR DEGREES CENTIGRADS	DEWPOINT TEMPERATURE AIR DEGREES CENTIGRADS	REL.HUM. PERCENT	DENSITY GM/CMICL METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	982.0	50.7	-20.0	66.0	1100.1	648.9	30.0	1.9	1.000273
4500.0	960.0	60.8	-4.0	43.7	1077.9	652.5	345.5	1.2	1.000261
5000.0	952.0	60.8	-7.0	49.9	1057.6	652.6	286.5	1.8	1.000260
5500.0	950.0	53.9	-7.0	47.4	1036.4	653.2	267.4	3.1	1.000254
6000.0	621.0	7.4	-13.0	21.6	1010.0	652.6	270.9	4.9	1.000258
6500.0	616.0	7.0	-8.0	31.4	1001.0	652.5	286.0	7.8	1.000258
7000.0	191.2	60.0	-3.0	48.9	985.1	651.0	291.3	10.3	1.000242
7500.0	750.0	55.9	-1.0	52.9	969.1	650.9	293.3	12.1	1.000242
8000.0	62.4	80.3	-6.0	27.2	942.2	654.1	297.9	12.7	1.000224
8500.0	44.0	8.6	-14.0	17.6	924.4	654.3	304.1	12.8	1.000215
9000.0	34.0	8.2	-16.0	16.0	909.0	653.7	307.5	12.7	1.000211
9500.0	21.3	7.5	-16.0	16.0	894.4	653.0	309.5	12.6	1.000207
10000.0	10.0	6.9	-17.0	16.0	880.1	652.2	306.4	12.9	1.000204
10500.0	6.1	6.1	-17.0	16.0	866.3	651.3	300.9	13.3	1.000200
11000.0	6.2	5.2	-18.0	16.0	853.3	650.2	293.1	14.2	1.000197
11500.0	6.6	4.4	-18.7	16.7	839.6	649.9	287.8	14.8	1.000194
12000.0	5.7	3.7	-18.0	17.5	826.1	648.5	284.0	15.2	1.000191
12500.0	4.9	3.1	-18.6	18.4	812.7	647.7	284.1	15.6	1.000188
13000.0	3.2	2.4	-18.0	19.3	799.5	647.0	285.7	16.0	1.000185
13500.0	2.1	1.6	-18.1	21.3	786.6	646.1	285.6	17.1	1.000183
14000.0	0.4	0.5	-16.3	27.0	775.1	644.7	285.3	16.2	1.000181
14500.0	0.9	0.7	-15.1	32.6	763.6	643.4	285.9	19.4	1.000180
15000.0	0.0	-1.4	-14.4	38.3	752.3	642.1	285.4	20.7	1.000178
15500.0	2.7	-3.0	-13.0	44.0	741.2	641.7	284.0	22.2	1.000176
16000.0	6.4	-4.2	-13.1	49.6	730.3	639.4	288.2	23.6	1.000174
16500.0	5.7	-5.7	-12.0	60.7	720.1	637.7	293.2	25.0	1.000173
17000.0	3.1	-6.7	-13.1	60.2	708.9	636.4	294.0	26.7	1.000170
17500.0	3.2	-7.1	-14.2	59.5	697.9	635.2	294.0	26.3	1.000166
18000.0	2.2	-8.7	-15.3	58.7	687.0	634.0	291.7	30.2	1.000163
18500.0	1.1	-9.7	-16.4	57.9	676.3	632.8	290.5	31.6	1.000160
19000.0	0.2	-10.7	-17.5	57.2	665.6	631.5	291.4	32.9	1.000157
19500.0	4.9	-12.0	-17.1	65.3	655.9	630.0	291.1	33.4	1.000155
20000.0	4.2	-13.4	-16.7	76.0	646.4	628.3	291.0	33.4	1.000153
20500.0	17.1	-14.8	-16.3	86.7	637.1	626.6	290.7	32.9	1.000151
21000.0	4.6	-16.0	-17.2	90.2	627.3	625.1	289.5	32.4	1.000149
21500.0	45.4	-17.0	-18.7	86.7	617.3	622.9	288.3	31.4	1.000146
22000.0	44.5	-17.6	-21.0	74.7	606.4	623.1	287.1	30.3	1.000142
22500.0	43.6	-18.7	-23.4	66.2	596.8	621.7	286.5	29.7	1.000138
23000.0	42.7	-19.4	-24.7	62.5	586.5	620.8	289.5	29.5	1.000135
23500.0	41.0	-20.1	-26.1	57.6	576.4	619.9	286.4	29.5	1.000133

STATION ALTITUDE 4051.37 FT. T MSL
10 NOV. 83 0800 HRS MST
ASCENSION NO. 161

UPPER AIR DATA
3140160161
LC-37

TABLE 8 Con't

STATION ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES, CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF WIND KIOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
24000.0	410.3	-71.3	-27.2	50.5	367.7	618.2	31.0
24500.0	402.0	-73.0	-28.3	61.5	359.5	610.3	31.5
25000.0	395.7	-74.3	-29.0	59.8	350.6	614.8	30.2
25500.0	389.6	-75.6	-30.2	64.8	342.3	615.1	30.3
26000.0	377.0	-76.7	-32.3	58.7	333.5	611.7	30.8
26500.0	369.6	-77.9	-34.1	55.2	324.7	610.2	30.4
27000.0	361.8	-79.0	-35.6	51.6	316.2	608.8	287.7
27500.0	354.2	-80.2	-37.0	48.0	307.8	607.3	266.7
28000.0	346.6	-81.3	-39.4	44.5	499.5	605.9	264.1
28500.0	339.4	-82.5	-40.0	46.8	491.1	604.5	262.0
29000.0	332.1	-83.6	-40.4	50.0	482.6	603.0	260.6
29500.0	325.0	-84.7	-40.8	53.2	474.7	601.6	279.5
30000.0	318.0	-85.9	-41.2	57.3	466.6	600.2	278.2
30500.0	311.1	-87.4	-41.9	69.0	459.6	598.3	277.5
31000.0	304.3	-88.4	-42.4	65.4	451.5	597.0	277.4
31500.0	297.7	-89.4	-44.7	56.6*	443.6	595.0	277.6
32000.0	291.1	-90.7	-46.2	44.0**	436.2	594.0	279.0
32500.0	284.0	-92.0	-52.2	31.3**	428.6	592.4	279.8
33000.0	276.3	-93.2	-43.2	57.5	421.6	590.7	280.2
33500.0	272.1	-94.5	-45.6	61.7**	414.6	589.1	280.2
34000.0	266.0	-95.6	-46.7	61.1**	407.3	587.6	280.1
34500.0	260.0	-96.7	-47.7	400.0	586.3	280.3	280.3
35000.0	254.1	-97.7	-47.7	392.7	584.9	280.7	280.7
35500.0	248.3	-98.9	-50.2	395.7	583.4	280.7	280.7
36000.0	242.6	-99.5	-50.8	379.0	581.7	280.5	280.5
36500.0	236.9	-99.5	-51.5	372.4	580.0	280.0	280.0
37000.0	231.4	-92.9	-46.0	366.0	578.2	279.4	279.4
37500.0	226.1	-54.2	-47.7	359.7	576.5	279.7	279.7
38000.0	220.6	-55.3	-48.9	353.4	574.7	280.9	280.9
38500.0	215.6	-56.8	-50.2	347.2	573.0	282.0	282.0
39000.0	210.5	-58.1	-52.1	341.0	571.3	284.9	284.9
39500.0	205.5	-59.4	-54.2	334.6	569.6	286.6	286.6
40000.0	200.6	-60.6	-56.9	328.6	567.9	287.8	287.8
40500.0	195.7	-61.4	-58.7	322.0	566.9	288.4	288.4
41000.0	191.0	-62.1	-60.4	315.2	565.0	289.6	289.6
41500.0	186.3	-62.6	-62.1	308.5	563.1	288.3	288.3
42000.0	181.8	-63.3	-63.8	301.9	564.3	287.8	287.8
42500.0	177.9	-63.5	-64.0	294.7	564.1	286.9	286.9
43000.0	173.1	-63.6	-64.0	287.6	563.9	285.6	285.6
43500.0	168.8	-63.8	-64.0	280.9	563.7	284.7	284.7

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4021.7 FEET MSL
18 NOV. 83 0000 HRS MSL

UPPER AIR DATA
3140100161
LC-37

TABLE 8 Con't

GEOMETRIC ALTITUDE FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	WATER VAPOR PERCENT	REL.HUM. PERCENT	DENSITY GRAMS METER KNOTS	SOUND SPEED KNOTS	DIRECTION WIND DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
44000.0	1640.1	-64.0			274.3	563.5	284.7	43.4	1.000061
44500.0	1600.1	-64.2			267.9	563.1	285.0	42.9	1.000060
45000.0	1560.0	-64.4			261.7	562.7	286.4	41.1	1.000058
45500.0	1520.0	-64.6			255.6	562.4	288.0	39.2	1.000057
46000.0	1480.2	-64.7			249.7	562.0	292.9	34.0	1.000056
46500.0	1440.2	-64.9			243.6	561.6	299.6	29.1	1.000054
47000.0	1410.9	-65.6			238.1	561.3	301.6	24.7	1.000053
47500.0	1380.4	-65.8			232.5	560.9	303.7	20.4	1.000052
48000.0	1350.0	-66.1			227.1	560.6	291.9	19.1	1.000051
48500.0	1310.6	-66.4			221.6	560.2	275.7	20.3	1.000050
49000.0	1280.4	-66.8			216.7	554.6	268.9	23.6	1.000048
49500.0	1250.2	-67.4			212.0	550.8	267.6	27.7	1.000047
50000.0	1220.1	-68.0			207.3	558.0	270.5	30.4	1.000046
50500.0	1190.0	-68.6			202.7	557.2	277.4	31.4	1.000045
51000.0	1160.1	-69.0			197.5	557.4	282.3	32.4	1.000044
51500.0	1130.2	-68.1			192.3	557.9	284.3	32.4	1.000043
52000.0	1100.4	-67.8			187.2	558.3	285.9	32.4	1.000042
52500.0	1070.6	-67.5			182.3	558.7	286.0	31.9	1.000041
53000.0	1050.0	-67.1			177.5	559.2	286.1	31.5	1.000040
53500.0	1020.4	-66.8			172.8	559.6	289.5	30.9	1.000038
54000.0	990.0	-66.5			168.2	560.1	293.0	30.4	1.000037
54500.0	970.4	-66.1			163.6	560.6	293.7	30.4	1.000036
55000.0	950.6	-65.7			159.5	561.1	293.8	30.5	1.000035
55500.0	9250.0	-65.3			155.2	561.7	295.6	27.3	
56000.0	910.0	-64.9			151.1	562.2	299.0	22.1	1.000034
56500.0	890.1	-64.5			147.1	562.7	303.6	17.9	1.000033
57000.0	880.0	-64.2			143.0	563.2	305.1	14.8	1.000032
57500.0	870.0	-64.0			139.7	563.4	306.7	11.9	1.000031
58000.0	860.6	-63.9			136.2	563.6	300.7	12.0	1.000030
58500.0	850.0	-63.9			132.8	563.6	294.7	12.2	1.000029
59000.0	840.0	-63.7			129.5	566.9	289.2	11.6	1.000028
59500.0	830.6	-63.6			126.2	566.1	282.9	10.8	1.000027
60000.0	820.0	-63.5			123.1	564.1	273.7	10.8	1.000027
60500.0	810.0	-63.5			120.0	564.5	262.6	12.1	1.000027
61000.0	800.0	-63.2			117.0	564.7	255.0	13.6	1.000026
61500.0	790.0	-63.0			114.6	564.7	259.3	14.2	1.000025
62000.0	780.0	-63.0			111.4	564.6	263.2	15.6	1.000025
62500.0	760.0	-63.2			108.7	564.5	263.2	14.7	1.000024
63000.0	740.1	-63.0			105.6	563.3	261.9	14.1	1.000024
63500.0	720.3	-62.6			102.7	563.9	262.2	13.8	1.000023

STATION ALTITUDE 4051.37 FT MSL
10 NOV. 8.3 0800N 110E PST
ASCENSION NO. 161

UPPER AIR DATA
3140100161
LC-37

TABLE 8 Con't

STATION ALTITUDE	PRESSURE	TEMPERATURE AIR	DEWPOINT AIR	REL.HUM. PERCENT	SPEED OF WIND KNOTS	WIND DATA IN DEGREES (TN)	INDEX OF REFRACTION
41000.0	60.4	-60.9		100.0	567.5	205.3	14.0
41600.0	59.4	-60.9		97.5	567.6	208.5	14.3
42200.0	58.0	-60.8		95.2	567.7	205.2	12.4
42800.0	59.6	-60.7		92.8	567.6	301.5	11.6
43400.0	55.3	-60.6		90.0	567.9	314.7	10.0
44000.0	53.9	-60.5		88.4	568.0	329.1	7.9
44600.0	52.6	-60.5		86.2	568.1		1.000019
45200.0	51.4	-60.4		84.1	568.3		1.000019
45800.0	50.1	-60.3		82.1	568.4		1.000018

GEOMETRIC CRAMMATES
32.00175 LAT 101.066
106.31232 LONG

STATION ALTITUDE 4051.37 FT LT MSL
10 NOV. 83 0800 HKG MST
ASCENSION ISL. 161

MANDATORY LEVELS
3140160161
LC-37

TABLE 9

GEOMETRIC COORDINATES
32°46'17" LAT DEG
160°31'23" LONG DEG

PRESSURE (GROUNDFLUID) MILLIBARS	FEET	TEMPERATURE, DEGREES CENTIGRADE	REL.HUM.-%		WIND DATA	
			AIR DEWPOINT DEGREES	PERCENT	DIRECTION WEATHER (TN)	SPEED KNOTS
5061.0	5061.	6.8	-2.6	51.	282° 8	1.9
6000.0	6627.	6.6	-6.5	36.	289° 2	9.1
7500.0	8417.	6.6	-13.8	19.	303° 4	12.8
7000.0	10301.	6.5	-17.5	16.	304° 2	13.1
6500.0	12281.	3.4	-18.6	18.	283° 4	15.5
6000.0	14377.	-5	-15.3	32.	284° 1	19.2
5500.0	16658.	-6.0	-12.4	61.	293° 7	25.6
5000.0	19045.	-10.9	-17.7	57.	291° 5	33.1
4500.0	21708.	-17.3	-19.6	82.	287° 7	30.9
4000.0	24577.	-23.4	-28.6	62.	291° 0	31.6
3500.0	27734.	-30.8	-38.6	46.	285° 3	35.9
3000.0	31264.	-37.0	-43.6	61.	277° 4	35.5
2500.0	35279.	-48.5			280° 8	46.8
2000.0	39963.	-60.6			287.9	47.4
1750.0	42666.	-63.6			280° 2	44.2
1500.0	45761.	-65.0			291° 4	35.4
1250.0	49300.	-67.4			267° 6	27.7
1000.0	53796.	-66.5			292° 6	30.5
800.0	58262.	-63.6			295° 6	12.1
700.0	60954.	-63.0			256° 2	15.7
600.0	64076.	-60.0			260° 9	14.2
500.0	67800.	-60.3				

STATION ALTITUDE 3989.00 FT. T.M. NSL
 10 NOV. 83 0935 HRS. PST
 ASCENSION NO. 552

SIGNIFICANT LEVEL DATA

11400020552
 WHITE SANDS

TABLE 10

GEODETIC COORDINATES
 32°40'04.3 LAT DEG
 106°37'03.3 LON DEG

MEASURED GROUNDPAC MILLIMARS NSL FEET	ALTITUDE DEGREES CENTIGRADE	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
881.4	3289.0	8.5	51.0
877.8	4193.0	10.3	53.0
855.8	4083.1	7.7	55.4
850.0	5067.1	7.5	56.0
850.4	5000.4	7.1	57.5
826.6	5822.0	7.9	59.0
821.2	5999.5	8.2	59.6
801.3	6663.8	7.6	60.0
742.0	7123.0	6.8	61.3
714.8	7572.7	6.7	63.0
765.5	7899.5	6.7	64.3
756.6	8217.6	10.1	65.0
709.0	10325.4	6.5	69.0
614.8	13790.2	1.5	71.5
591.3	14817.9	-0.6	72.5
575.3	15537.3	-1.7	75.6
554.6	17429.6	-6.8	77.0
509.0	19140.0	-12.3	77.1
493.7	19459.4	-11.7	77.5
463.1	21060.1	-15.8	79.0
451.5	21110.2	-16.0	80.2
444.0	21827.1	-15.9	81.0
437.6	22465.2	-17.4	82.4
449.0	24652.8	-23.4	84.0
389.3	25962.1	-26.3	87.0
319.0	31357.7	-39.5	89.3
259.0	35182.6	-49.1	91.0
209.0	40089.5	-60.0	92.0
172.3	43131.8	-53.5	93.5
159.0	45031.5	-64.4	94.4
129.1	48040.7	-65.8	95.8
117.4	50037.3	-68.5	96.5
109.1	52296.0	-69.0	97.0
107.0	54038.3	-66.3	97.4
76.0	61231.4	-62.4	98.0
59.0	68119.9	-61.1	98.6
45.5	70069.6	-58.0	99.2
37.7	74003.0	-56.2	99.7
31.1	76107.2	-57.1	100.2
36.9	78180.1	-54.2	100.5

STATION ALTITUDE 34000 FEET MSL
18 NOV. 63 0035 HRS, MDT
SECTIONAL NO. 226

STATION ALTITUDE LEVEL DATA

31000.0552
WHITE SANDS

GEODETIC COORDINATES
32°40.04' LAT DEG
106°37.03' LONG DEG

TABLE 10 Con't

PRESSURE GEOMETRIC MILLIBARS MSL FEEI	ALTITUDE DEGREES CENTIGRADE	TEMPERATURE AIR DEGREE CENTIGRADE	HUMIDITY PERCENT
36.0	78804.0	-55.0	
26.0	87442.3	-51.9	
15.1	93502.6	-49.7	

STATION ALTITUDE 3989.00 FT T MSL
10 NOV. 65 0955 HRS, HST
ASCENSION NO. 552

UPPER AIR DATA
314002552
WHITE SANDS

TABLE 11

STATION ALTITUDE	PRESSURE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	REL.HUM. 6M/CUBIC METER	WIND DATA	INDEX OF REFRACTION
3989.0	984.4	8.5	-1.0	51.0	1091.2	654.6
4100.0	984.0	8.6	-1.2	50.0	1090.5	654.7
4500.0	967.9	9.1	-5.6	34.8	1069.2	655.1
5100.0	952.1	7.6	-3.7	46.6	1055.3	653.4
5500.0	935.5	7.3	-7.9	44.8	1037.0	653.1
6000.0	921.2	8.2	-10.6	25.0	1015.5	653.9
6500.0	906.2	7.1	-6.5	36.3	998.0	653.5
7000.0	891.4	7.2	-3.0	48.2	981.1	653.1
7500.0	876.9	6.7	-1.0	49.6	964.7	652.5
8000.0	862.1	9.1	-14.6	17.1	940.3	654.9
8500.0	848.8	9.6	-15.8	14.9	921.0	655.4
9000.0	835.1	8.8	-16.7	14.6	907.0	654.4
9500.0	821.6	7.9	-17.6	14.4	893.7	653.4
10000.0	808.5	7.1	-18.5	14.2	880.1	652.4
10500.0	805.4	6.2	-19.1	14.1	866.5	651.4
11000.0	802.5	5.5	-19.5	14.4	852.6	650.6
11500.0	800.4	4.8	-19.6	14.6	839.0	649.7
12000.0	807.4	4.1	-20.2	15.0	825.5	648.9
12500.0	804.2	3.4	-20.6	15.3	812.4	648.0
13000.0	803.5	2.6	-20.9	15.5	799.4	647.2
13500.0	802.5	1.9	-21.3	15.8	786.6	646.3
14000.0	801.9	1.1	-18.8	20.9	774.2	645.4
14500.0	800.5	0.0	-11.4	32.6	762.2	644.3
15000.0	807.2	-9	-13.3	38.2	750.3	643.3
15500.0	806.1	-1.6	-15.6	33.4	738.3	642.3
16000.0	806.1	-2.9	-16.6	35.7	727.7	641.3
16500.0	804.3	-4.3	-16.3	38.6	717.4	639.2
17000.0	803.7	-5.6	-16.6	41.5	707.3	637.6
17500.0	803.3	-7.0	-16.9	44.9	697.3	635.9
18000.0	802.9	-8.6	-16.6	51.7	687.9	634.0
18500.0	802.8	-10.2	-16.8	58.4	678.6	632.1
19000.0	802.8	-11.4	-17.0	65.1	669.5	630.1
19500.0	802.9	-11.8	-17.5	62.2	656.2	630.2
20000.0	802.1	-13.1	-18.4	61.4	640.5	628.6
20500.0	802.6	-14.4	-19.2	66.6	636.0	627.0
21000.0	804.2	-15.6	-20.1	68.7	627.4	625.5
21500.0	805.1	-16.0	-20.4	68.3	615.7	625.1
22000.0	805.9	-16.9	-22.4	56.9	604.3	624.0
22500.0	806.4	-17.5	-21.5	54.3	595.0	623.1
23000.0	806.1	-18.9	-25.0	58.4	586.0	621.4
						204.5
						203.3

GEOMETRIC COORDINATES
32°40'43" LAT DEG
106°37'33" LON DEG

INDEX

OF
REFRACTION

WIND DATA

DEGREES(TIN)

KNOTS

SPEED(KNOTS)

DIRECTION

DEGREES

SOUND
KNOTS

WIND(FU) KNOTS

REL.HUM.

PERCENT

TEMPERATURE
AIR
DEGREES
CENTIGRADE

PRESSURE
MSL FEET

STATION ALTITUDE

10 NOV. 65

0955 HRS, HST

ASCENSION NO. 552

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH ANG. ELEVATION ANGLES.

STATION ALTITUDE 3489.00 FEET MSL
10 NOV. 83 0935 HRS, MST
ASCENSION NO. 522

UPPER AIR DATA
3140020552
WHITE SANDS

GEONETIC COORDINATES
32°40'03" LAT DEG
106°37'03" LONG DEG

TABLE II Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT PERCENT	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA KNOTS	SPEED OF REFRACTION
23500.0	419.9	-20.2	-25.5	62.5	577.3	619.6	286.1	28.5	1.000133
24000.0	410.9	-21.6	-26.1	66.6	568.6	618.1	286.7	28.9	1.000131
24500.0	402.5	-23.0	-26.0	70.7	560.2	616.4	286.6	28.6	1.000129
25000.0	394.2	-24.2	-27.0	73.1	551.4	614.8	285.9	27.7	1.000127
25500.0	386.1	-25.4	-28.0	74.8	542.7	613.3	285.1	27.5	1.000124
26000.0	378.0	-26.6	-29.0	75.8	533.9	611.8	284.4	27.6	1.000122
26500.0	370.0	-27.8	-30.9	75.0	525.1	610.3	283.3	29.3	1.000120
27000.0	362.1	-29.0	-32.4	74.1	516.5	609.8	282.3	31.0	1.000118
27500.0	354.3	-30.2	-33.4	73.3	508.0	607.3	282.0	30.6	1.000115
28000.0	346.6	-31.4	-34.7	72.5	499.6	605.8	281.7	30.1	1.000113
28500.0	339.4	-32.6	-36.0	71.7	491.4	604.3	281.8	28.9	1.000111
29000.0	332.1	-33.8	-37.3	70.9	483.3	602.8	281.8	27.9	1.000109
29500.0	325.0	-35.0	-38.5	70.0	475.4	601.2	281.3	27.4	1.000107
30000.0	318.1	-36.2	-39.8	69.2	467.7	599.7	281.2	27.3	1.000105
30500.0	311.3	-37.4	-41.1	68.4	460.0	598.2	281.5	28.0	1.000104
31000.0	304.7	-38.6	-42.3	67.6	452.5	596.6	282.1	28.8	1.000102
31500.0	298.1	-39.8	-43.9	64.6**	445.0	595.1	283.2	29.9	1.000100
32000.0	291.4	-41.0	-46.3	56.3**	437.3	593.6	284.0	31.0	1.000098
32500.0	284.9	-42.2	-48.0	45.0**	429.7	592.0	284.5	32.2	1.000096
33000.0	278.5	-43.4	-51.5	39.7**	422.3	590.5	284.6	33.4	1.000094
33500.0	272.3	-44.6	-54.6	31.3**	415.0	589.0	284.1	34.5	1.000093
34000.0	266.2	-45.8	-58.1	23.0**	407.6	587.4	283.5	35.5	1.000091
34500.0	260.2	-47.0	-62.0	14.7**	400.8	585.9	282.4	35.7	1.000089
35000.0	254.4	-48.2	-67.5	6.4**	393.9	584.3	281.5	35.9	1.000088
35500.0	248.6	-49.4	-70.7	387.0	582.8	278.6	36.9	1.000086	
36000.0	242.8	-50.7	-73.1	379.9	581.3	276.5	38.1	1.000085	
36500.0	237.1	-51.7	-74.7	373.0	579.8	274.7	41.7	1.000083	
37000.0	231.5	-52.6	-76.0	366.1	579.2	273.4	45.2	1.000082	
37500.0	226.0	-54.0	-77.5	359.5	576.7	273.6	47.1	1.000080	
38000.0	220.8	-55.2	-78.7	352.9	575.2	274.4	49.0	1.000079	
38500.0	215.7	-56.3	-79.8	346.5	573.7	273.9	50.4	1.000077	
39000.0	210.6	-57.5	-80.6	340.2	572.1	273.6	51.8	1.000076	
39500.0	205.7	-58.6	-81.6	334.0	570.6	274.5	50.7	1.000074	
40000.0	200.9	-59.8	-82.8	327.9	569.0	275.6	49.2	1.000073	
40500.0	196.1	-60.5	-83.7	321.1	568.1	277.3	47.5	1.000072	
41000.0	191.3	-61.0	-84.2	314.2	567.4	279.4	45.7	1.000070	
41500.0	186.5	-61.6	-84.7	307.4	566.6	280.1	44.6	1.000068	
42000.0	182.1	-62.2	-85.2	300.6	565.8	280.0	44.2	1.000067	
42500.0	177.1	-62.8	-85.7	294.3	565.1	280.4	43.5	1.000066	
43000.0	173.4	-63.3	-86.2	287.9	564.3	280.4	42.3	1.000064	

** AT LEAST ONE ASSUMED INFLATIVELY VARIABLE VALUE WAS USED IN THE INTERPOLATION.

STATION: ALTIMAR, 39°49'00" NLT
 10 NOV. 85 0935 HNC, NST
 ALTITUDE: 1000.0 m

UPPER AIR DATA
 314102052
 WHITE SANDS
 MSL

TABLE 11 Con't

GEOMETRIC ALTITUDE MSL MFT	PRESSURE MILIBARS	TEMPERATURE AIR DEGREE, CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (IN) KNOTS	WIND FRACTION OF REFRACTION
4500.0	2060.6	-43.6	281.3	563.9	280.7	41.3	1.000003
4600.0	2050.8	-43.8	274.6	563.7	280.5	40.7	1.000001
4700.0	2040.9	-43.9	268.1	563.6	280.0	40.3	1.000001
4800.0	2030.1	-44.1	261.8	563.5	281.9	40.4	1.000008
4900.0	2020.2	-44.3	255.6	563.1	283.1	40.6	1.000057
5000.0	2010.4	-44.4	249.3	562.8	287.0	39.2	1.000066
5100.0	2000.6	-44.7	243.6	562.5	291.0	37.8	1.000054
5200.0	1990.9	-44.9	237.9	562.2	293.3	33.0	1.000053
5300.0	1980.7	-45.1	232.3	561.9	292.8	25.8	1.000052
5400.0	1970.5	-45.4	226.9	561.6	287.5	20.4	1.000051
5500.0	1960.0	-45.6	221.0	561.3	272.5	18.9	1.000049
5600.0	1950.6	-45.9	216.4	560.9	259.6	19.5	1.000048
5700.0	1940.6	-46.0	211.8	559.9	263.9	23.8	1.000047
5800.0	1930.4	-46.1	207.4	558.9	266.8	28.3	1.000046
5900.0	1920.4	-46.0	202.8	558.0	272.0	31.5	1.000045
6000.0	1910.4	-46.2	197.9	557.7	276.2	34.9	1.000044
6100.0	1900.4	-46.2	192.2	558.9	279.7	36.3	1.000043
6200.0	1890.6	-46.5	186.7	560.0	282.9	36.0	1.000042
6300.0	1880.0	-46.6	181.6	560.7	286.9	36.7	1.000040
6400.0	1870.1	-46.7	177.2	560.5	292.4	35.6	1.000039
6500.0	1860.6	-47.4	172.9	560.4	297.5	31.6	1.000037
6600.0	1850.7	-46.6	168.7	560.3	297.8	32.2	1.000038
6700.0	1840.0	-46.0	164.4	560.6	298.1	29.8	1.000037
6800.0	1830.6	-45.8	160.2	561.0	296.6	27.6	1.000036
6900.0	1820.6	-45.6	156.1	561.4	294.2	25.5	1.000035
7000.0	1810.7	-45.2	152.0	561.7	292.8	22.6	1.000034
7100.0	1800.2	-45.3	148.1	562.1	293.2	18.6	1.000033
7200.0	1790.7	-45.0	144.3	562.5	293.0	14.8	1.000032
7300.0	1780.4	-44.7	140.6	562.8	295.7	12.4	1.000031
7400.0	1770.2	-44.4	137.0	563.4	278.4	10.9	1.000031
7500.0	1760.0	-43.2	133.5	563.6	277.1	11.4	1.000030
7600.0	1750.0	-43.0	130.0	563.9	277.6	12.3	1.000029
7700.0	1740.3	-43.0	126.7	564.3	275.7	12.4	1.000028
7800.0	1730.1	-43.1	123.4	564.7	271.6	12.0	1.000027
7900.0	1720.8	-42.8	120.2	565.0	268.5	12.4	1.000027
8000.0	1710.5	-43.0	117.2	565.4	269.9	15.3	1.000026
8100.0	1700.4	-42.5	114.2	565.8	270.6	18.2	1.000025
8200.0	1690.4	-42.3	111.4	565.8	275.0	18.5	1.000025
8300.0	1680.2	-42.1	108.7	565.9	279.3	18.8	1.000024
8400.0	1670.0	-42.1	106.0	566.0	280.0	17.1	1.000024

STATION ALTITUDE 3999.00 FT. MSL.
10 NOV. 83 0935 HRS. AST
ASCENSION NO. 522

UPPER AIR DATA
3140020552
WHITE SANDS

TABLE 11 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	WIND SHELF OF METER	DENSITY GM/CMIC KNOTS	WIND DATA DEGREES(10) KNOTS	SPEED KNOTS	INDEX OF REFRACTION
63500.0	620.7	-62.0		103.4	560.1	270.4	14.3	1.000023
64000.0	610.2	-61.9		100.8	560.3	278.0	12.3	1.000022
64500.0	590.7	-61.8		98.4	560.4	280.7	11.7	1.000022
65000.0	580.2	-61.7		95.9	560.5	285.9	11.1	1.000021
65500.0	560.8	-61.6		93.6	560.6	291.3	11.1	1.000021
66000.0	550.5	-61.5		91.3	560.8	298.5	11.3	1.000020
66500.0	540.1	-61.4		89.0	560.9	301.9	9.7	1.000020
67000.0	520.6	-61.3		86.9	561.0	305.4	7.7	1.000019
67500.0	510.5	-61.2		84.7	567.1	306.7	6.9	1.000019
68000.0	500.3	-61.1		82.6	567.3	304.4	7.0	1.000018
68500.0	490.1	-60.5		80.4	568.1	303.0	7.1	1.000018
69000.0	470.9	-59.7		78.2	569.2	304.1	6.6	1.000017
69500.0	460.8	-58.9		76.1	570.2	305.5	6.1	1.000017
70000.0	450.7	-58.1		74.0	571.3	301.7	4.5	1.000016
70500.0	440.6	-57.8		72.1	571.7	292.4	2.8	1.000016
71000.0	430.5	-57.6		70.3	572.0	261.6	2.3	1.000016
71500.0	420.5	-57.3		68.6	572.3	254.8	3.2	1.000015
72000.0	410.5	-57.1		66.9	572.6	222.6	4.3	1.000015
72500.0	400.5	-56.9		65.3	572.9	220.1	4.4	1.000015
73000.0	390.6	-56.7		63.6	573.2	217.6	4.6	1.000014
73500.0	380.6	-56.4		62.1	573.5	208.6	3.0	1.000014
74000.0	370.7	-56.2		60.5	573.8	195.1	3.2	1.000013
74500.0	360.4	-56.4		59.2	573.5	185.1	3.4	1.000013
75000.0	350.9	-56.6		57.6	573.3	189.5	4.6	1.000013
75500.0	350.1	-56.8		56.5	573.0	196.0	5.7	1.000013
76000.0	340.3	-57.1		55.3	572.7	230.6	7.7	1.000012
76500.0	330.5	-56.6		53.8	573.4	247.4	11.2	1.000012
77000.0	320.7	-55.9		52.4	574.3	259.0	13.3	1.000011
77500.0	310.4	-55.2		51.0	575.2	269.7	11.8	1.000011
78000.0	310.2	-54.6		49.7	576.1	278.1	16.6	1.000011
78500.0	300.4	-54.6		48.5	575.9	281.2	15.4	1.000011
79000.0	290.7	-54.9		47.5	575.5	284.6	14.4	1.000011
79500.0	280.0	-54.8		46.3	575.7	291.6	13.6	1.000010
80000.0	260.4	-54.6		45.2	576.0	302.3	13.5	1.000010
80500.0	270.7	-54.4		44.1	576.2	312.7	13.0	1.000010
81000.0	27.1	-54.2		43.1	576.4	319.0	14.1	1.000010
81500.0	260.4	-54.0		42.0	576.7	324.4	14.2	1.000009
82000.0	250.8	-53.9		41.0	576.9	329.2	14.0	1.000009
82500.0	250.2	-53.7		40.0	577.1	332.5	11.8	1.000009
83000.0	240.6	-53.5		39.1	577.4	337.4	9.7	1.000009

STATION ALTITUDE 9989.0 FT. T MSL
10 NOV. 6.9 0935 HRS MSL
ASCENSION NO. 226

UPPER AIR DATA
31400020552
WHITE SANDS
MILLIAMS
MSL FEE

GEOMETRIC PRESSURE
ALITUDE
MSL FEET

TEMPERATURE
AIR
DEPOLAR
CENTIGRADE

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOLAR CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/ CUBIC METER	SPECIFIC SOUND KIOTS	WIND DATA DIRECTION DEGREES (IN) KIOTS	WIND DATA SPEED KIOTS	INDEX OF REFRACTION
8500.0	24.1	-53.0		38.1	577.6	339.6	8.5	1.000000
8400.0	25.3	-53.0		37.2	577.9	338.7	7.9	1.000000
8450.0	25.0	-53.0		36.3	578.1	337.7	7.3	1.000000
8500.0	22.4	-52.6		35.5	578.3	314.3	6.6	1.000000
8550.0	21.9	-52.6		34.6	578.6	289.9	7.1	1.000000
8600.0	21.4	-52.4		33.8	578.8	272.7	8.8	1.000000
8650.0	20.9	-52.2		33.0	579.0	267.2	11.2	1.000007
8700.0	20.4	-52.1		32.2	579.3	263.7	13.7	1.000007
8750.0	19.9	-51.9		31.4	579.5	262.2	15.9	1.000007
8800.0	19.5	-51.7		30.7	579.7	266.1	16.1	1.000007
8850.0	19.0	-51.5		29.9	580.0	270.0	16.4	1.000007
8900.0	18.6	-51.3		29.2	580.2	273.6	16.4	1.000006
8950.0	18.2	-51.2		28.5	580.5	277.6	13.2	1.000006
9000.0	17.8	-51.0		27.9	580.7	284.4	10.1	1.000006
9050.0	17.4	-50.8		27.2	580.9	295.4	7.4	1.000006
9100.0	17.0	-50.6		26.5	581.2	296.9	6.6	1.000006
9150.0	16.6	-50.4		25.9	581.4	298.9	5.8	1.000006
9200.0	16.2	-50.2		25.3	581.6	25.3	1.000006	
9250.0	15.8	-50.1		24.7	581.9	24.7	1.000005	
9300.0	15.5	-49.9		24.1	582.1	23.5	1.000005	
9350.0	15.1	-49.7		23.5	582.4			

TABLE 11 Con't

GEOMETRIC COORDINATES
32°40'04.3 LAT DEG
106°37'03.3 LONG DEG

STATION ALTITUDE 3989.00 FEET MSL
10 NOV. 83 0935 HRS PST
ASCENSION NO. 3252

MANDATORY LEVELS
3140020552
WHITE SANDS
TABLE 12

GEOMETRIC COORDINATES
32.4043 LAT LEG
106.37033 LONG LEG

PRESSURE MILLIBARS	GEOPOTENTIAL FLEET	TEMPERATURE, DEGREES CENTIGRADE	REL.HUM. PERCENT	WIND DATA	
				DEPOINT CENTIGRADE	DIRECTION DEGREES (TN) SPEED KNOTS
9510.0	5063.	7.5	-2.5	49.	9999.0 9949.0xx
900.0	6762.	7.5	-4.6	41.	285.7 10.0
750.0	8449.	9.7	-15.7	15.	305.2 11.7
700.0	10315.	6.5	-14.0	14.	298.0 12.7
650.0	12278.	3.6	-20.4	15.	285.2 15.0
600.0	14416.	.2	-14.9	31.	289.7 20.2
550.0	16686.	-4.8	-16.4	40.	298.8 21.8
500.0	19113.	-12.3	-17.1	67.	290.9 26.9
450.0	21738.	-15.9	-21.9	60.	279.9 20.5
400.0	24611.	-23.4	-27.0	72.	286.4 28.4
350.0	27769.	-30.9	-34.2	73.	281.7 30.4
300.0	31295.	-39.5	-45.3	67.	282.8 29.6
250.0	35305.	-49.1			279.5 36.6
200.0	39993.	-60.0			275.8 49.0
175.0	42778.	-63.1			280.2 42.8
150.0	45808.	-64.4			266.2 39.5
125.0	49449.	-66.7			264.3 24.4
100.0	53872.	-66.3			297.8 32.1
80.0	58334.	-63.9			277.1 11.3
70.0	61029.	-62.4			270.3 10.5
60.0	64155.	-61.9			279.4 11.6
50.0	67864.	-61.1			304.1 7.1
40.0	72471.	-56.8			219.0 4.5
30.0	784473.	-55.0			285.1 14.9
25.0	82307.	-53.6			333.7 11.2
20.0	87034.	-51.9			261.7 15.7

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

END

FILMED

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DTIC